

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (Cancelled).
2. (Previously presented) A color laser display apparatus comprising:
 - a laser light source which emits ultraviolet laser light;
 - a modulation unit which modulates said ultraviolet laser light;
 - a display unit which includes a fluorescent screen; and
 - a scanning unit which two-dimensionally scans said fluorescent screen with said ultraviolet laser light;
 - said fluorescent screen including for each pixel,
 - red fluorescent material which emits red light in response to said ultraviolet laser light,
 - green fluorescent material which emits green light in response to said ultraviolet laser light, and
 - blue fluorescent material which emits blue light in response to said ultraviolet laser light;
 - wherein said laser light source is a semiconductor laser device having an active layer made of a GaN material.
3. (Original) A color laser display apparatus according to claim 2, wherein said semiconductor laser device is one of a tapered-amplifier type, an α -DFB type, a phase-synchronization array type, and a surface emitting type.

4. (Previously presented) A color laser display apparatus comprising:

- a laser light source which emits ultraviolet laser light;
- a modulation unit which modulates said ultraviolet laser light;
- a display unit which includes a fluorescent screen; and
- a scanning unit which two-dimensionally scans said fluorescent screen with said ultraviolet laser light;

said fluorescent screen including for each pixel,

- red fluorescent material which emits red light in response to said ultraviolet laser light,
- green fluorescent material which emits green light in response to said ultraviolet laser light, and
- blue fluorescent material which emits blue light in response to said ultraviolet laser light;

wherein said laser light source includes,

- a semiconductor laser device which has an active layer made of a GaN material so as to emit excitation laser light, and
- a surface emitting semiconductor laser device which has an active layer made of a GaN material and formed on a substrate, and is excited by the excitation laser light to emit said ultraviolet laser light.

5. (Previously presented) A color laser display apparatus comprising:

- a laser light source which emits ultraviolet laser light;
- a modulation unit which modulates said ultraviolet laser light;
- a display unit which includes a fluorescent screen; and

a scanning unit which two-dimensionally scans said fluorescent screen with said ultraviolet laser light;

said fluorescent screen including for each pixel,
red fluorescent material which emits red light in response to said ultraviolet laser light,
green fluorescent material which emits green light in response to said ultraviolet laser light, and

blue fluorescent material which emits blue light in response to said ultraviolet laser light;
wherein said laser light source is a fiber laser device including,

an excitation light source which emits excitation light,
an optical fiber doped with at least one rare earth element which emits a laser beam when excited by the excitation light, where the at least one rare earth element includes Pr³⁺, and
a wavelength conversion element which converts said laser beam into said ultraviolet laser light.

6. (Cancelled).

7. (Previously presented) A color laser display apparatus comprising:
a laser light source which emits ultraviolet laser light;
a modulation unit which modulates said ultraviolet laser light;
a display unit which includes a fluorescent screen; and
a scanning unit which two-dimensionally scans said fluorescent screen with said ultraviolet laser light;
said fluorescent screen including for each pixel,
red fluorescent material which emits red light in response to said ultraviolet laser light,

green fluorescent material which emits green light in response to said ultraviolet laser light, and

blue fluorescent material which emits blue light in response to said ultraviolet laser light; wherein said light source is:

a gallium nitride semiconductor laser; or

a semiconductor laser excited solid state laser in which a laser beam, obtained by exciting a solid state laser crystal with a gallium nitride semiconductor laser, is wavelength converted by an optical wavelength conversion element then emitted; or

a fiber laser or a fiber amplifier in which a laser beam, obtained by exciting a fiber with a semiconductor laser that emits light in an infrared range, is wavelength converted by an optical wavelength conversion element then emitted; or

a fiber laser, in which a laser beam, obtained by exciting a fiber with a gallium nitride semiconductor laser, is wavelength converted by an optical wavelength conversion element then emitted.

8. (Previously presented) A color laser display comprising:

a laser light source which emits ultraviolet laser light;

a modulation unit which modulates said ultraviolet laser light;

a display unit which includes a fluorescent screen; and

a scanning unit which two-dimensionally scans said fluorescent screen with said ultraviolet laser light;

said fluorescent screen including for each pixel,

red fluorescent material which emits red light in response to said ultraviolet laser light,

green fluorescent material which emits green light in response to said ultraviolet laser light, and

blue fluorescent material which emits blue light in response to said ultraviolet laser light; wherein said laser light modulating means comprises a spatial light modulator driven by an electromechanical operation that utilizes static electricity.

9. (Original) A color laser display according to claim 8 wherein said spatial light modulator is a digital micro mirror device comprising a plurality of movable micro mirrors.

10. (Original) A color laser display device according to claim 8 wherein said spatial light modulator comprises grating light valve elements of a reflective diffraction grating type.

11. (Original) A color laser display device according to claim 7 wherein said spatial light modulator comprises reflective diffraction grating type grating light valve elements consisting of:

a plurality of fixed microelements having a first reflective surface formed thereon; and
a plurality of movable microelements having a second reflective surface formed thereon;
wherein said fixed and movable microelements are alternately arranged on a substrate in a predetermined direction, so that when static electricity is applied, the movable microelements move, changing the distance between the first and second reflective surfaces, thereby diffracting light incident thereto.

12. (Original) A color laser display according to claim 10, wherein said spatial light modulator comprises a plurality of grating light valve elements that are arranged in a single

line in a direction substantially perpendicular to said scanning direction, or arranged as a light modulating array in a plurality of rows.

13. (Original) A color laser display according to claim 12 wherein the lengthwise direction of the grating of said grating light valve elements match the arranging direction of said light modulating array.

14. (Original) A color laser display according to claim 10 wherein said spatial light modulator is positioned so that it is rotated at a predetermined angle in relation to the optical axis around the normal line of the surface thereof.

15. (Previously presented) A color laser display comprising:

- a laser light source which emits ultraviolet laser light;
- a modulation unit which modulates said ultraviolet laser light;
- a display unit which includes a fluorescent screen; and
- a scanning unit which two-dimensionally scans said fluorescent screen with said ultraviolet laser light;

said fluorescent screen including for each pixel,

- red fluorescent material which emits red light in response to said ultraviolet laser light,
- green fluorescent material which emits green light in response to said ultraviolet laser light, and
- blue fluorescent material which emits blue light in response to said ultraviolet laser light;

wherein said laser light source comprises:

- a first laser light source which is plurality of gallium nitride semiconductor lasers each coupled to a plurality of fibers; and

a second laser light source which is a plurality of gallium nitride semiconductor lasers coupled to a plurality of fibers via a wave multiplexing optical system;

wherein the fibers of at least one of said first and second laser light sources is arranged in an array form to constitute a linear laser light source that emits a linear laser light flux; or

wherein the fibers of at least one of said first second laser light sources is arranged in a bundle form to constitute a planar laser light source that emits a spot beam laser light flux.

16. (Previously presented) A color laser display comprising:

a laser light source which emits ultraviolet laser light;

a modulation unit which modulates said ultraviolet laser light;

a display unit which includes a fluorescent screen; and

a scanning unit which two-dimensionally scans said fluorescent screen with said ultraviolet laser light;

said fluorescent screen including for each pixel,

red fluorescent material which emits red light in response to said ultraviolet laser light,

green fluorescent material which emits green light in response to said ultraviolet laser light, and

blue fluorescent material which emits blue light in response to said ultraviolet laser light;

wherein said laser light source comprises a plurality of laser light sources that emit a light beams with a predetermined wavelength range that includes ultraviolet, and a wave multiplexing optical system that multiplexes the laser light emitted from said plurality of laser light sources.

17 - 18. (Cancelled).

19. (New) The color laser display apparatus of claim 2, further wherein said laser light source is a $\text{In}_x\text{Ga}_{1-x}\text{N}$ laser.

20. (New) The laser display apparatus of claim 19, further wherein the $\text{In}_x\text{Ga}_{1-x}\text{N}$ meets the following equation: ($0 < x < 0.2$).

21. (New) The laser display apparatus of claim 2, further wherein the wavelength of the ultraviolet laser light is 420 nm or less.

22. (New) The laser display apparatus of claim 20, further wherein the wavelength of the ultraviolet laser light is 420 nm or less.

23. (New) The laser display apparatus of claim 21, further wherein the laser light source is at least one of the following: GaN, $\text{In}_x\text{Ga}_{1-x}\text{N}$, $\text{GaN}_y\text{As}_{1-y}$, $\text{In}_x\text{Ga}_{1-x}\text{N}_y\text{As}_{1-y}$, and $\text{Al}_x\text{Ga}_{1-x}\text{N}$, where $0 < x < 1$ and $0 < y < 1$.